

NISTTech

COUPLED CAVITY SPECTROMETER WITH ENHANCED SENSITIVITY AND DYNAMIC RANGE

Abstract

An optical resonator by which reflectivity of ring-down cavity mirrors can be altered and enhanced by adding external optical cavities that recycle light to the main cavity. A coupled-cavity ring-down spectroscopy (CC-RDS) is used for controlling the finesse of an optical resonator. Applications include extending the sensitivity and dynamic range of a cavity-enhanced spectrometer as well as widening the useful spectral region of high-reflectivity mirrors. CC-RDS uses controlled feedback of the probe laser beam to a ring-down cavity, which leads to interference between the internally circulating light and that which is fed back through a cavity mirror port.

References

- Pub. No. US 2014/0347662 A!

Status of Availability

This invention is available for licensing exclusively or non-exclusively in any field of use.

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